

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
5 June 2003 (05.06.2003)

PCT

(10) International Publication Number
WO 2003/047271 A3

(51) International Patent Classification⁷: **H04N 7/36**

San Diego, CA 92126 (US). LUTHRA, Ajay; 13695 Winstanley Way, San Diego, CA 92130 (US).

(21) International Application Number:
PCT/US2002/037593

(74) Agent: NICHOLS, Steven, L.; River Park Corporate Center One, 10653 S. River Front Pkwy., Suite 150, South Jordan, UT 84095 (US).

(22) International Filing Date:
21 November 2002 (21.11.2002)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/333,004 21 November 2001 (21.11.2001) US
60/333,921 27 November 2001 (27.11.2001) US
60/395,708 12 July 2002 (12.07.2002) US
60/395,717 12 July 2002 (12.07.2002) US
10/301,203 20 November 2002 (20.11.2002) US

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant: GENERAL INSTRUMENT CORPORATION [US/US]; 101 Tournament Drive, Horsham, Pennsylvania 19044 (US).

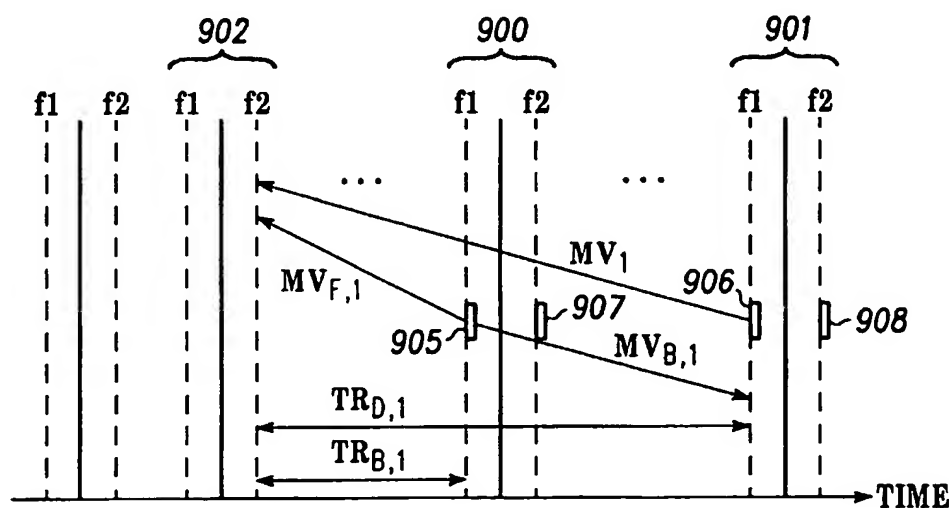
Published:
— with international search report

(72) Inventors: WANG, Limin; 13641 Shoal Summit Drive, San Diego, CA 92128 (US). PANUSOPONE, Krit; 7528 Charmant Dr. #434, San Diego, CA 92122 (US). GANDHI, Rajeev; 11187 Camino Ruiz, Apt. 74, San Diego CA 92126 (US). YU, Yue; 10845 Caminito Alvarez,

(88) Date of publication of the international search report:
26 February 2004

[Continued on next page]

(54) Title: PICTURE LEVEL ADAPTIVE FRAME/FIELD CODING FOR DIGITAL VIDEO SIGNAL



(57) Abstract: A method and system of encoding and decoding digital video content. The digital video content comprises a stream of pictures which can each be intra, predicted, or bi-predicted pictures. Each of the pictures comprises macroblocks that can be further divided into smaller blocks. The method entails encoding and decoding each picture in said stream of pictures in either frame mode or in field mode.

WO 2003/047271 A3

WO 2003/047271 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 02/37593

PCT/US 02/37593

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N7/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>P. BORGWARDT: "Core Experiment on Interlaced Video coding VCEG-N85" ITU - TELECOMMUNICATIONS STANDARDIZATION SECTOR ITU-T Q.6/SG16 VIDEO CODING EXPERT GROUP (VCEG), 24 - 27 September 2001, pages 1-10, XP002257037 Santa Barbara, CA, USA the whole document</p> <p style="text-align: center;">-/--</p>	1-7

☒ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

Z document member of the same patent family

Date of the actual completion of the international search

9 October 2003

Date of mailing of the international search report

22/10/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl
Fax (+31-70) 340-3016

Authorized officer

Foglia, P

INTERNATIONAL SEARCH REPORT

International Application No. . . .
PCT/US 02/37593

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	"H.26L TEST MODEL LONG TERM NUMBER 8 (TML-8) DRAFT" ITU-T TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU, GENEVA, CH, 2 April 2001 (2001-04-02), pages 1-54, XP001089814 page 9, paragraph 1 -page 10, paragraph 2.3 page 39, paragraph 6.1.2.2.1 -page 40	1-7
X	P. BORGWARDT: "Handling Interlaced Video in H.26L VCEG-N57" ITU - TELECOMMUNICATIONS STANDARDIZATION SECTOR ITU Q.6/SG16 VIDEO CODING EXPERT GROUP (VCEG), 24 - 27 September 2001, pages 1-3, XP002257142 Santa Barbara, CA, USA the whole document	1-7
X	M. GALLANT ET AL.: "High Rate, High Resolution Video using H.26L VCEG-N84" IUT - TELECOMMUNICATIONS STANDARDIZATION SECTOR ITU Q.6/SG16 VIDEO CODING EXPERT GROUP (VCEG), 24 - 27 September 2001, pages 1-7, XP002257143 Santa Barbara, CA, USA page 1 -page 3	1-7